

Bremner Colchester Comparison Matrix

Priorities Committee Meeting
March 8, 2016

Comparison Matrix

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- Appendix H : Assumptions



Comparison Matrix

Introduction

- The Capital Region Board projects that the population of Strathcona County will reach between 138,000 and 160,000 by 2044. This represents an increase of between 45,500 and 67,500 people based on the 2012 population of 92,500.
- Much of this growth can be accommodated in existing and planned areas, but still leaves a population of between 15,500 and 33,100 people who need to be accommodated in new urban areas not yet planned.
- It has been identified through the Bremner and Colchester Growth Management Strategies that both urban growth areas have the capacity to accommodate this unplanned growth.



Comparison Matrix

Introduction

- The matrix has been created to include criteria for comparison from the Colchester and Bremner Growth Management Strategies as well as from the completed supporting technical documents such as the high-level Biophysical Assessments and Transportation Analysis.
- The matrix also includes criteria for comparison on the Fiscal Impact Assessments of the final recommended concepts for both Colchester and Bremner.
- Additional information has been included based on feedback at the February 16th 2016 Priorities Committee Meeting. Appendix G discusses information requested that would require additional time and study.

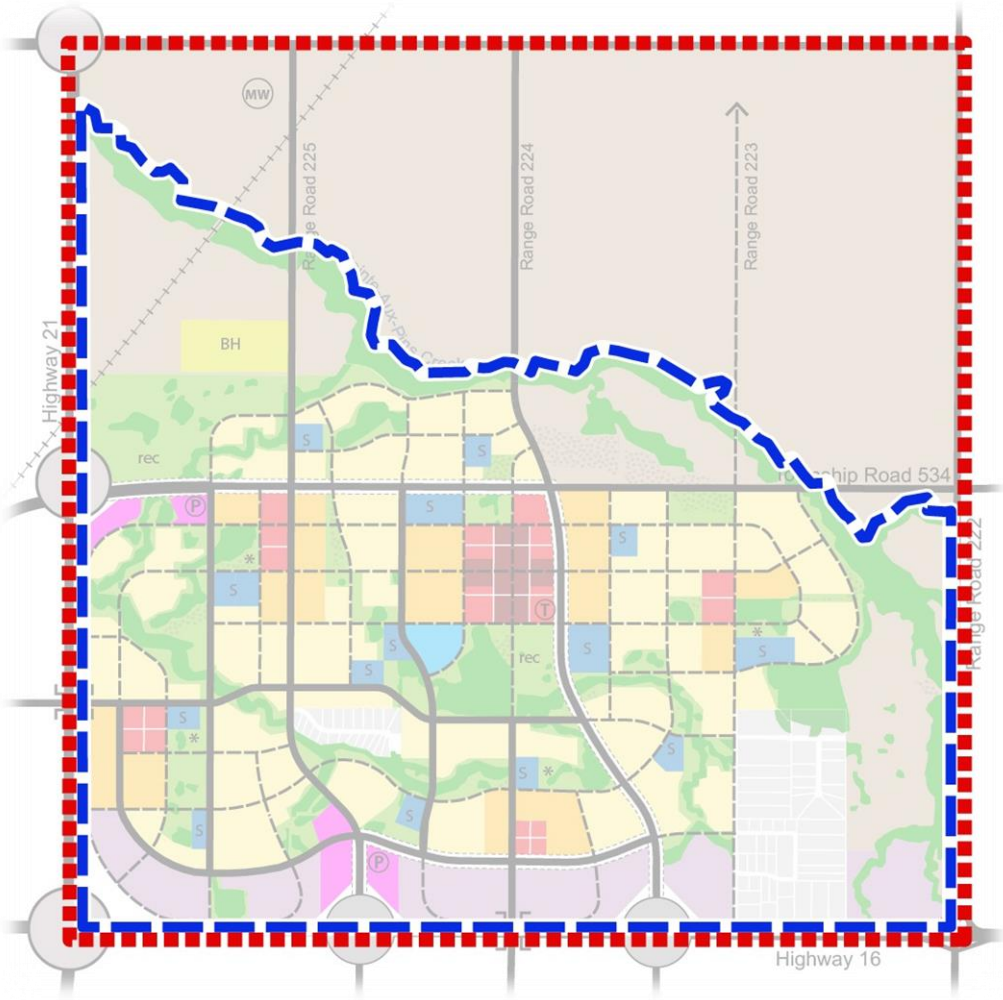


Comparison Matrix - Existing Conditions

Key Data	Bremner (Urban Reserve Area)	Colchester (Rural/Urban Transition Area)	Comments
Priority Growth Area	4,175 hectares	2,291 hectares	Priority Growth Area boundary reflects the Capital Region Board's Priority Growth Areas.
Plan Area	2,770 hectares	2,291 hectares	Plan Area boundary refers to the extent of the Priority Growth Area required for the design concept.

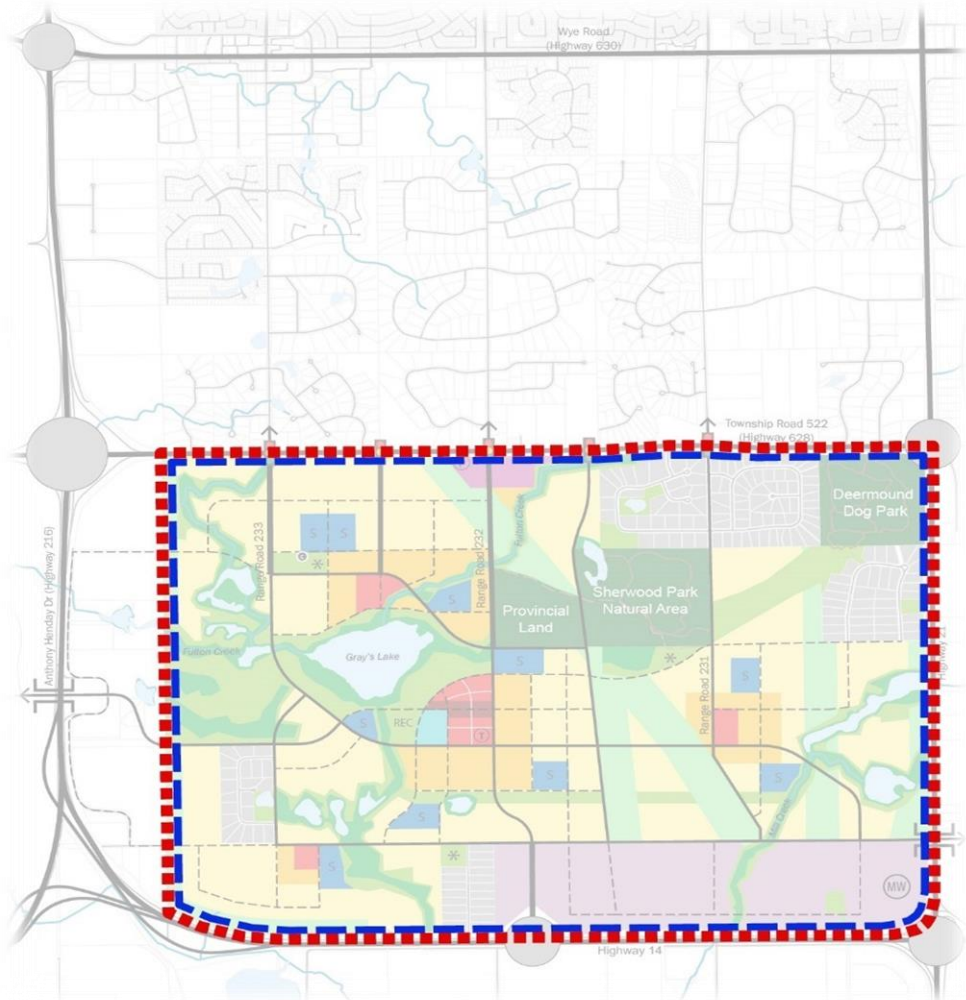
Priority Growth Area:
~16 sections

- Priority Growth Area
- Plan Area



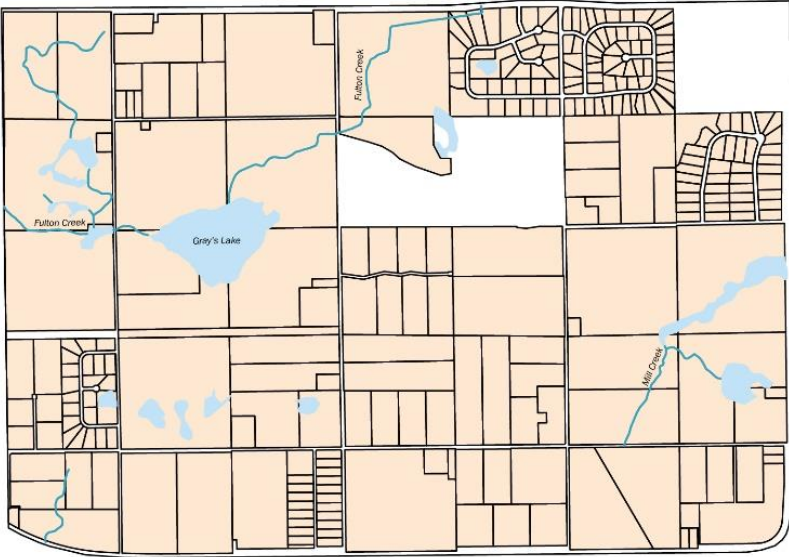
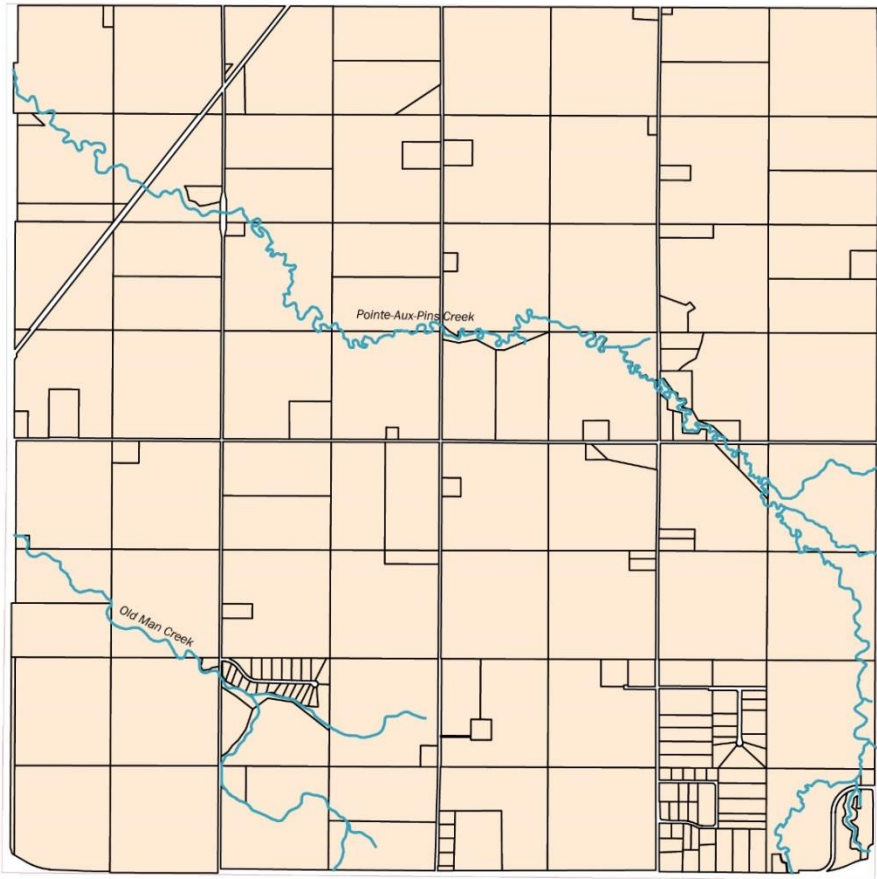
Priority Growth Area:
~8.5 sections

- Priority Growth Area
- Plan Area



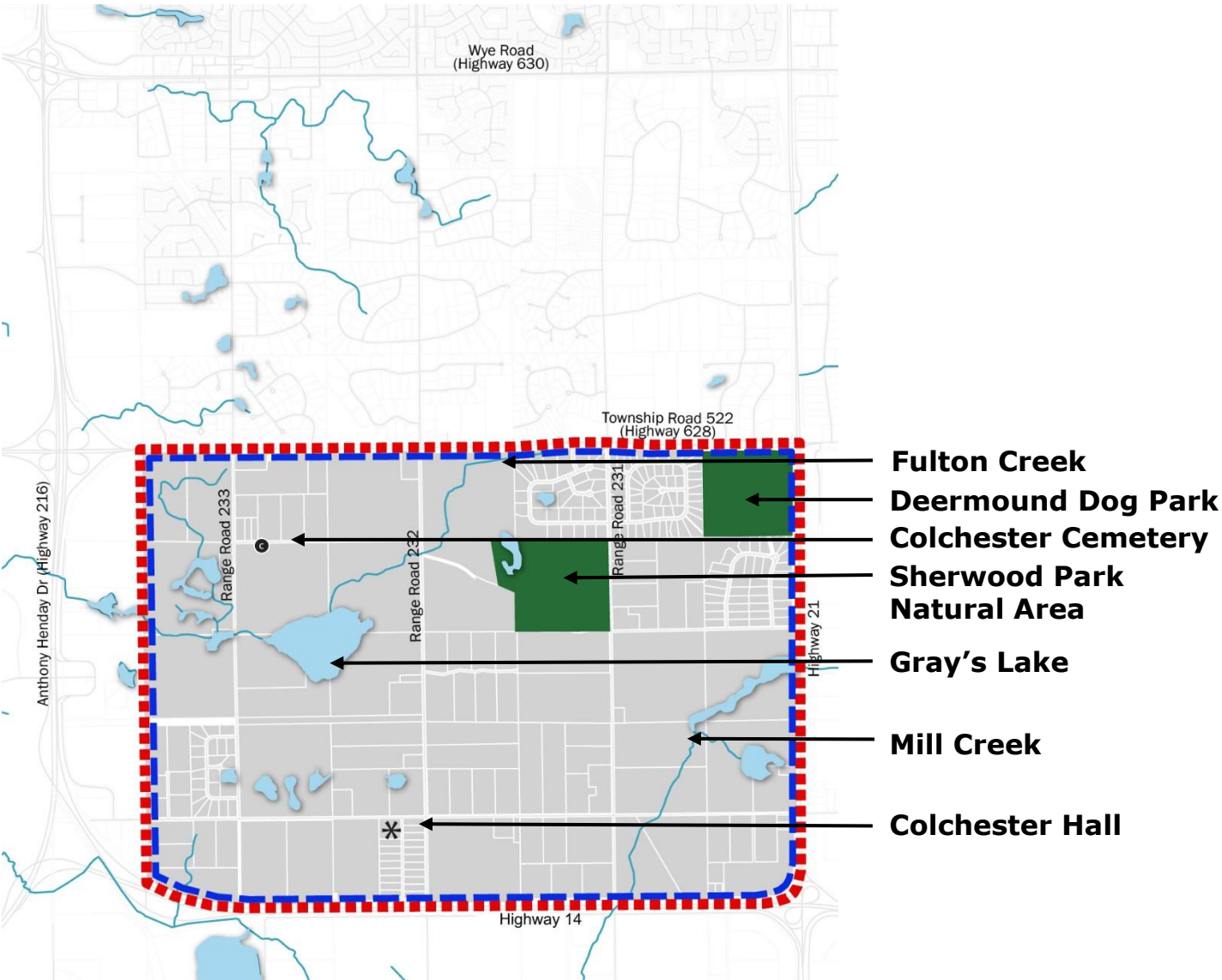
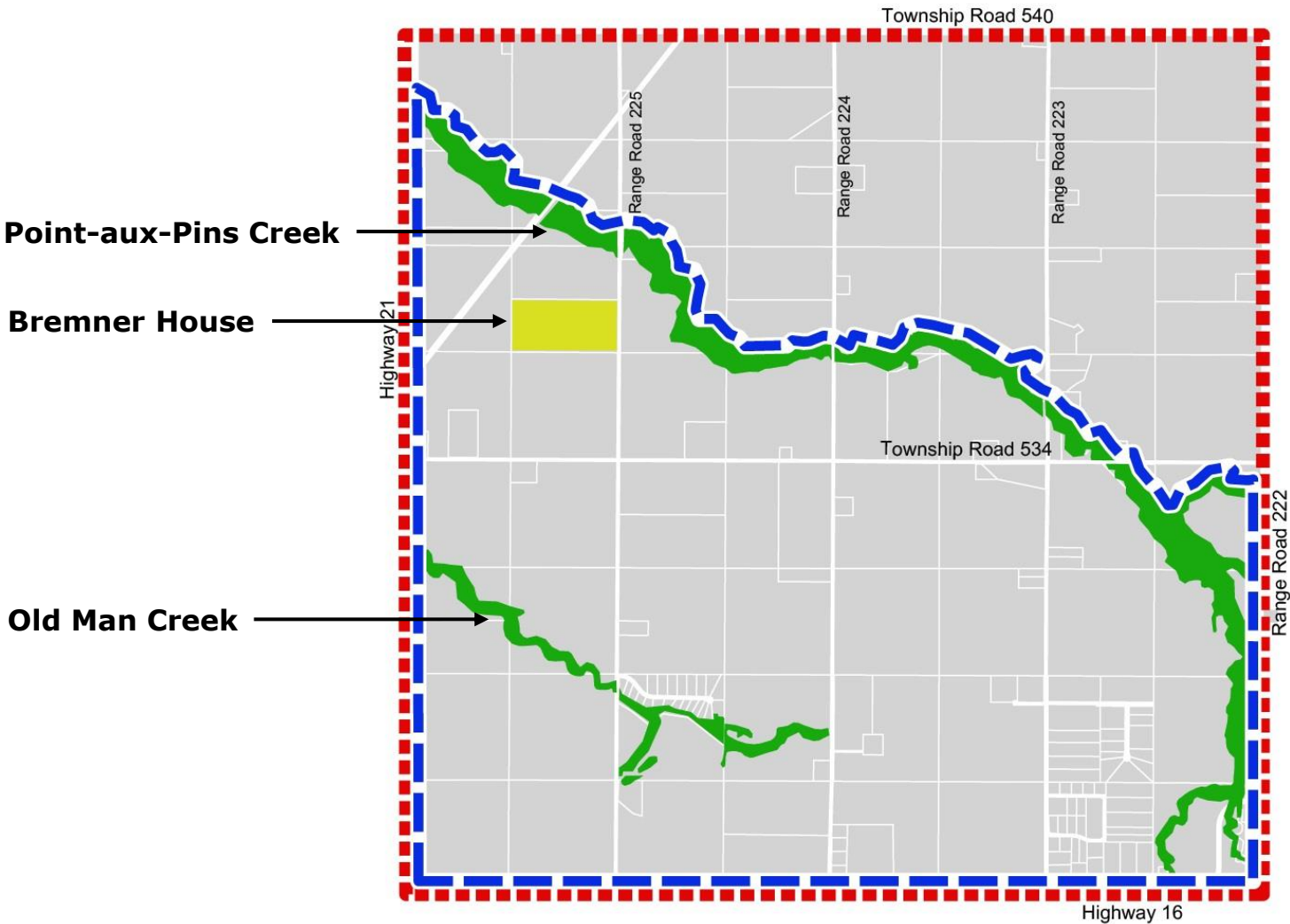
Comparison Matrix - Existing Conditions

Key Data	Bremner (Urban Reserve Area)	Colchester (Rural/Urban Transition Area)	Comments
Number of Properties - Priority Growth Areas	148 Country Residential	259 Country Residential	Country Residential, <20 acres
	6 Rural Residential	21 Rural Residential	Rural Residential, 20-40 acres
	20 small rural/agriculture lots	20 small rural/agriculture lots	Rural/Agriculture, 41-80 acres
	56 large rural/agriculture lots	16 large rural/agriculture lots	Rural/Agriculture, 80+ acres
	230 total properties	316 total properties	Total properties in Priority Growth Area.



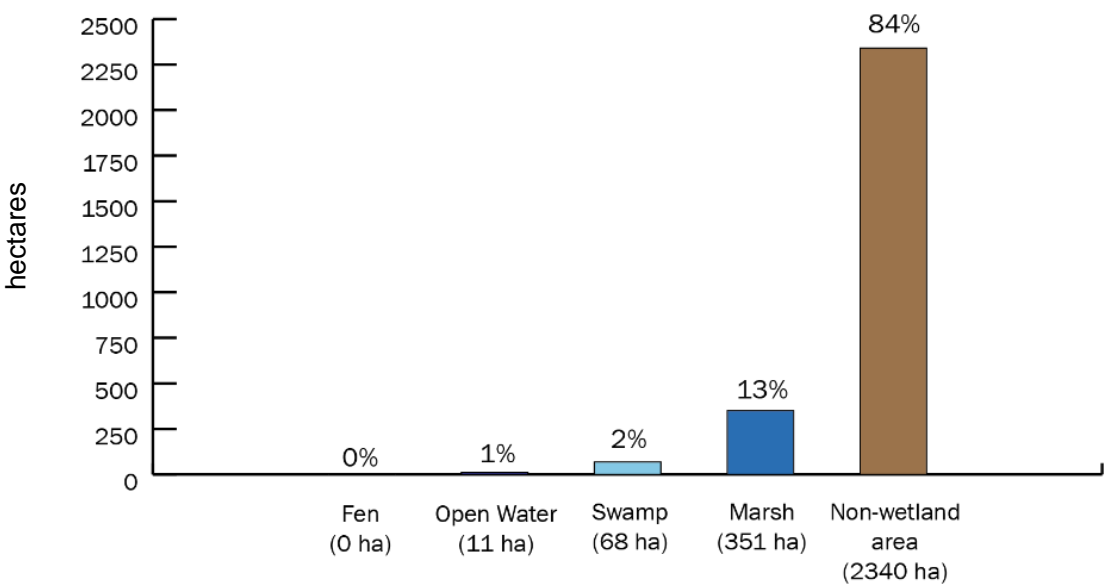
Comparison Matrix - Existing Conditions

Key Data	Bremner (Urban Reserve Area)	Colchester (Rural/Urban Transition Area)	Comments
Existing Key Features and Amenities	Bremner House, Point-aux-Pins creek, Old Man creek.	Colchester Hall, Sherwood Park Natural Area, Deermound Offleash Dog Park, Colchester cemetery, Mill creek, Fulton creek, and Gray's Lake.	

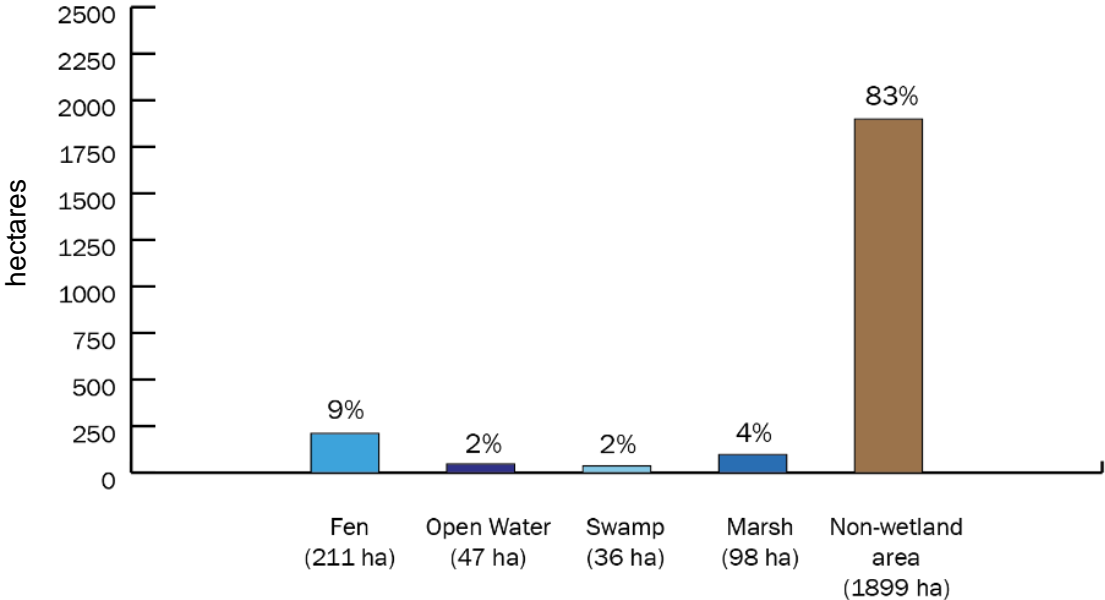


Comparison Matrix - Existing Conditions

Key Data	Bremner (Urban Reserve Area)	Colchester (Rural/Urban Transition Area)	Comments
Wetlands - Percentage of Plan Areas	Total wetland areas (430 hectares, 16% of Plan Area) 	Total wetland areas (392 hectares, 17% of Plan Area) 	<p>These numbers are based on Alberta Merged Wetland Inventory Data. The detailed Beaver Hills Initiative (BHI) data for Colchester used in the report has not been included. This information does not include any streams, creeks, drainage courses or recharge areas. This information is only an estimation and has not been verified by Administration through detailed site analysis as required by Alberta Wetland Policy.</p> <p>Development in Strathcona should achieve "No Net Loss" of wetland functions in accordance with Strathcona County's Wetland Conservation Policy. The same amount of wetlands should remain post development.</p>



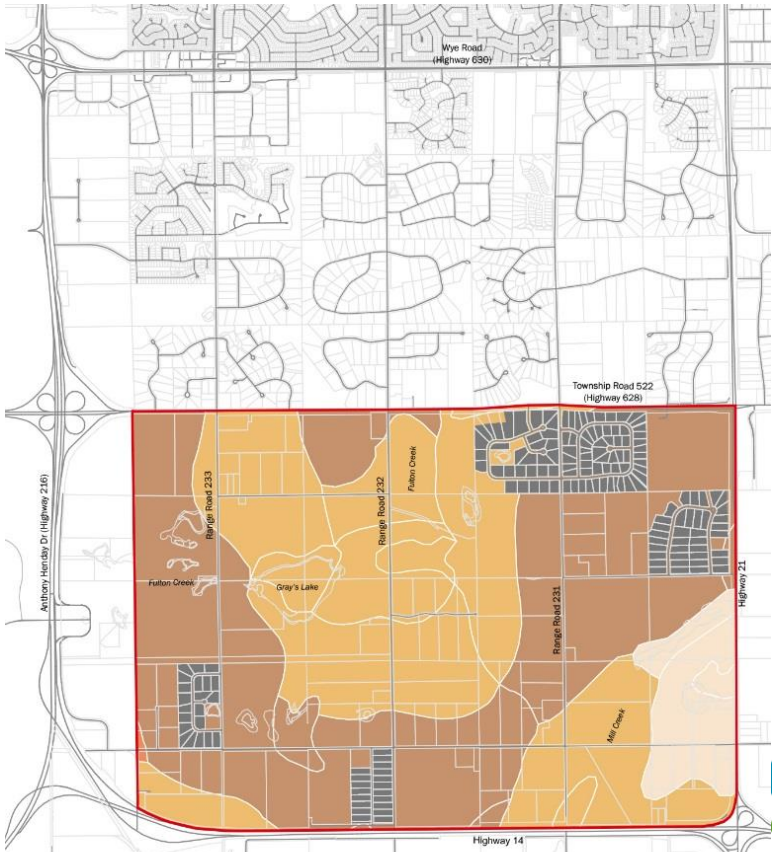
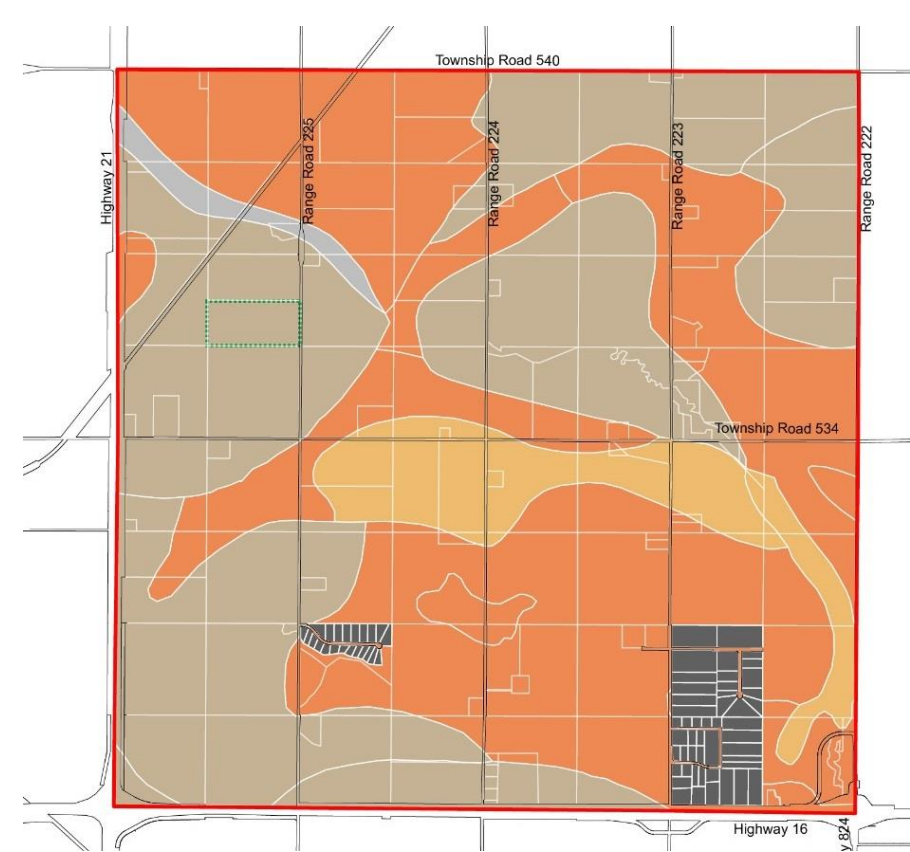
Plan Area: 2,770 hectares



Plan Area: 2,291 hectares

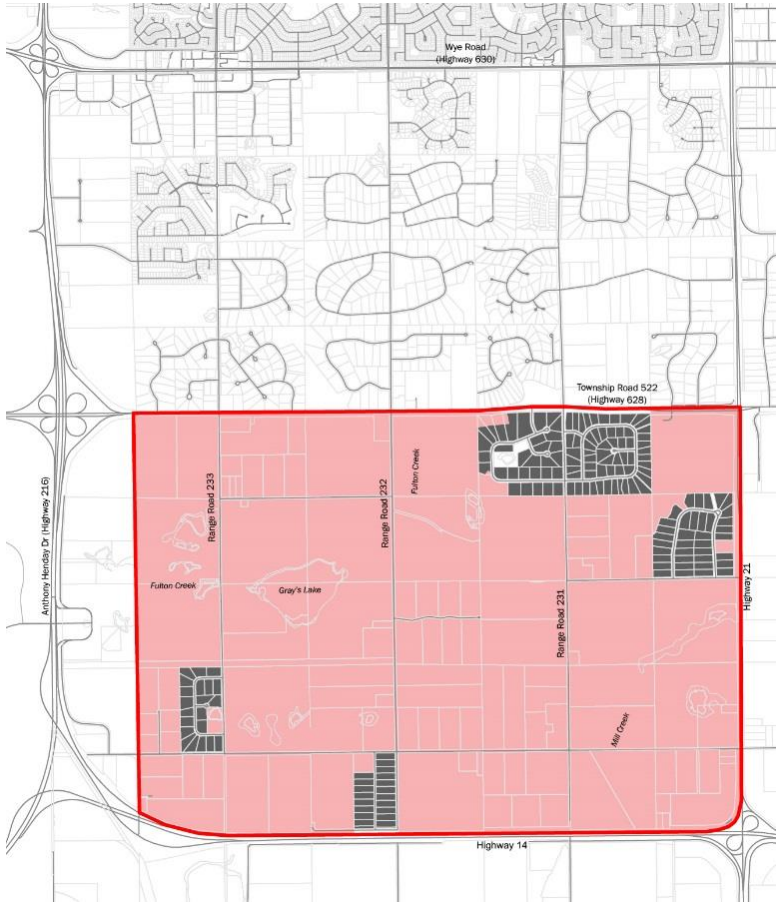
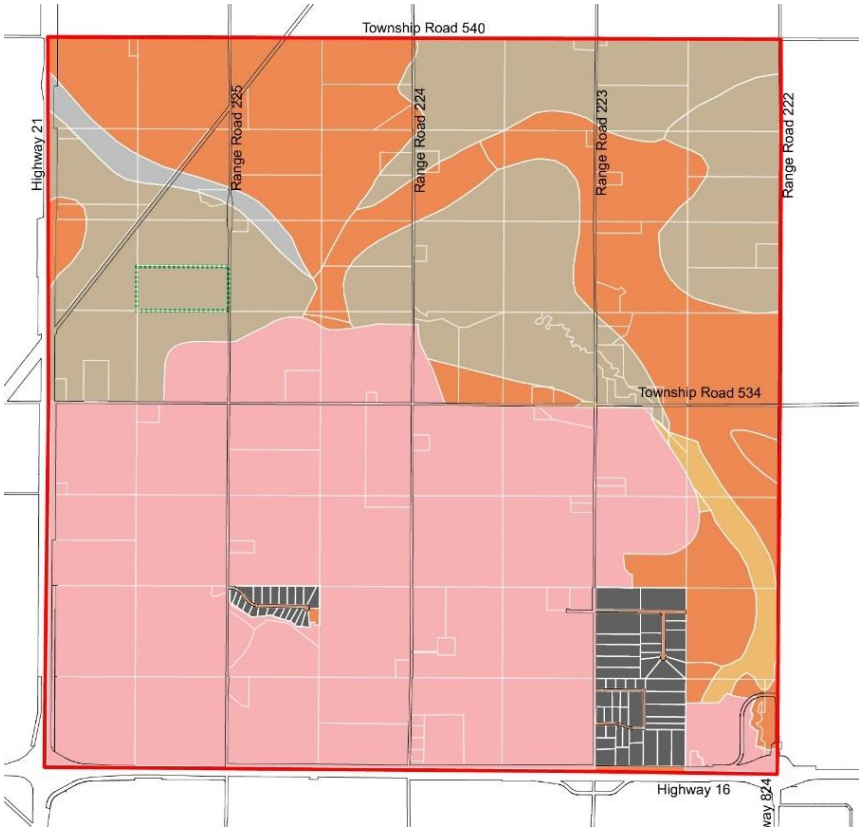
Comparison Matrix - Existing Conditions, continued

Key Data	Bremner (Urban Reserve Area)	Colchester (Rural/Urban Transition Area)	Comments																																																
Existing Agricultural Soils -Priority Growth Areas	<p>Priority Growth Area: 4,175 hectares</p> <table><tr><th>Class</th><th>Area (ha)</th><th>Percentage</th></tr><tr><td>Class 1</td><td>1744</td><td>43%</td></tr><tr><td>Class 2</td><td>1860</td><td>44%</td></tr><tr><td>Class 3</td><td>321</td><td>8%</td></tr><tr><td>Class 4</td><td></td><td>0%</td></tr><tr><td>Class 5</td><td></td><td>0%</td></tr><tr><td>Class 6</td><td>48</td><td>2%</td></tr><tr><td>Existing Country Residential</td><td>147</td><td>3%</td></tr></table>	Class	Area (ha)	Percentage	Class 1	1744	43%	Class 2	1860	44%	Class 3	321	8%	Class 4		0%	Class 5		0%	Class 6	48	2%	Existing Country Residential	147	3%	<p>Priority Growth Area: 2,291 hectares</p> <table><tr><th>Class</th><th>Area (ha)</th><th>Percentage</th></tr><tr><td>Class 1</td><td></td><td>0%</td></tr><tr><td>Class 2</td><td></td><td>0%</td></tr><tr><td>Class 3</td><td>913</td><td>40%</td></tr><tr><td>Class 4</td><td>1002</td><td>44%</td></tr><tr><td>Class 5</td><td>152</td><td>6%</td></tr><tr><td>Class 6</td><td></td><td>0%</td></tr><tr><td>Existing Country Residential</td><td>222</td><td>10%</td></tr></table>	Class	Area (ha)	Percentage	Class 1		0%	Class 2		0%	Class 3	913	40%	Class 4	1002	44%	Class 5	152	6%	Class 6		0%	Existing Country Residential	222	10%	Classifications of agricultural soils within each Priority Growth Area, as it exists currently, based on the Canadian Land Inventory (CLI) system.
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Comparison Matrix - Existing Conditions, continued

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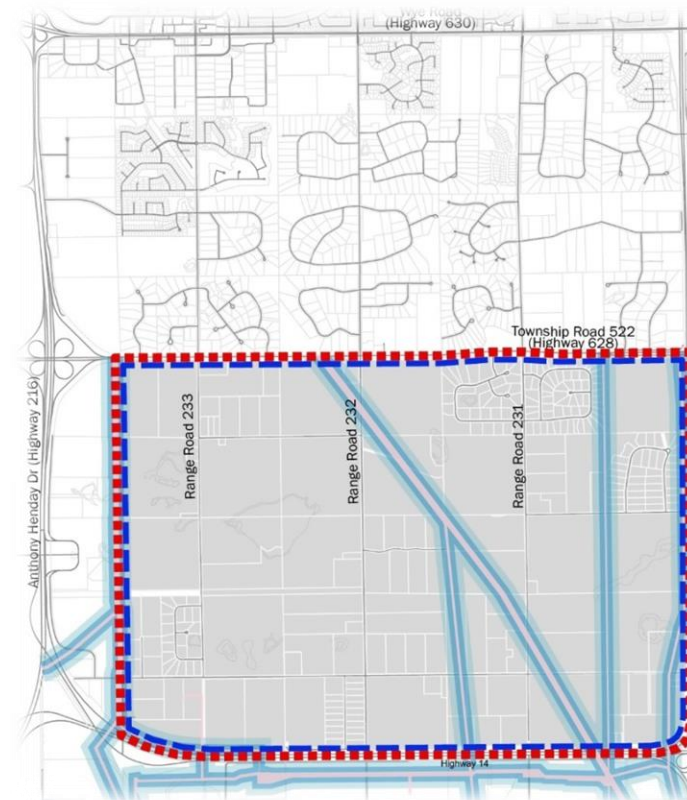
Comparison Matrix - Community Design Concepts

Key Data	Bremner (Urban Reserve Area)	Colchester (Rural/Urban Transition Area)	Comments
CRB Density Target (du/nrha)	30-40 du/nrha	30-45+ du/nrha	
Density of Recommended Concept	35 du/nrha	33 du/nrha	
Population Capacity at Full Buildout	54,000 people	38,850 people	
Potential Buildout Date	2054	2048	Based on Fiscal Impact Analysis growth rate.
Employment Potential	9,800 jobs	6,580 jobs	
Potential Future Expansion	YES - 1,439 ha (3,555 ac)	NO - 0 ha	Based on the Capital Region Growth Plan priority growth areas.

Comparison Matrix - Community Design Concepts

Key Data	Bremner (Urban Reserve Area)		Colchester (Rural/Urban Transition Area)		Comments
Land Use Components	Hectares (Acres)	Percentage of Plan Area	Hectares (Acres)	Percentage of Plan Area	
Pipeline Setbacks (10^{-6} risk contour)	420 ha (1,038 ac)	15%	301 ha (744 ac)	13%	Pipeline setbacks are only required for sensitive uses. Pipeline corridor in Bremner and portion of Colchester located adjacent to Business Park (no setback required).
Environmental Reserve - ER	180 ha (445 ac)	6%	160 ha (394 ac)	7%	Due to the Moraine landscape in Colchester, beyond what is shown on the concept, an additional 10% of the land is assumed to be required for Environmental reserve.
Municipal Reserve - MR	453 ha (1,119 ac)	16%	328 ha (809 ac)	14%	Includes school sites.

- ■ ■ Priority Growth Area
- ■ Plan Area



- Pipeline Right-of-way (15m)
- Pipeline 1×10^{-5} Risk Contour (120m)
- Pipeline 1×10^{-6} Risk Contour (250m)

Comparison Matrix - Community Design Concepts

Key Data	Bremner (Urban Reserve Area)		Colchester (Rural/Urban Transition Area)		Comments
Net Developable Land	1,206 ha (2,980 ac)	44%	1,037 ha (2,562 ac)	45%	Excludes ER, MR, pipeline setbacks, roads, areas not for development, Provincial lands.
Residential Areas	856 ha (2,115 ac)	31%	760 ha (1,879 ac)	33%	
Low density residential (average density 28 du/nrha)	658 ha (1,626 ac)	24%	622 ha (1,538 ac)	27%	
Medium density residential (average density 44 du/nrha)	198 ha (489 ac)	7%	138 ha (341 ac)	6%	
Mixed use Areas	103 ha (255 ac)	4%	42 ha (103 ac)	2%	Assumes 50% commercial uses and 50% high density residential uses, with an average residential density of 90 du/nrha.
Business Park Areas	202 ha (499 ac)	7%	219 ha (540 ac)	10%	
Major Retail Areas	45 ha (111 ac)	2%	16 ha (41 ac)	1%	

Comparison Matrix - Fiscal Impact Analysis

Key Data	Bremner (Urban Reserve Area)		Colchester (Rural/Urban Transition Area)		Comments
Costs for Off-site Infrastructure (\$ Million)	\$M 642.10		\$M 307.06		As per the Fiscal Impact Analysis, off-site infrastructure refers to any new hard infrastructure or upgrades to existing hard infrastructure outside of the boundaries of the subject area required to service the development. This includes provincial infrastructure such as highways and interchanges.
Off-site costs per capita	\$11,890.74/person		\$7,903.73/person		
• Water (\$ Million)	\$M 45.0		\$M 22.4		
• Wastewater (\$ Million)	\$M 24.0		\$M 92.3		
• Roads (\$ Million)	3 At-grade Intersections	9.0	5 At-grade Intersections	15.0	Per capita costs are the infrastructure costs divided by the total respective populations at full build out.
	3 Service Interchanges	205.0	1.1 Service Interchange	66.0	
	1 Systems Interchange	175.0	0 Systems Interchanges	0.0	
	2 Highway Overpasses	50.0	1 Highway Overpass	25.0	
	Highway Widening	134.1	Highway Widening	49.2	
			RR Widening	37.2	
	Total Off-site Roads	\$M 573.1	Total Off-site Roads	\$M 192.4	

Comparison Matrix - Fiscal Impact Analysis

Key Data	Bremner (Urban Reserve Area)		Colchester (Rural/Urban Transition Area)		Comments
Costs for On-site infrastructure (\$ Million)	\$M 3,339.37		\$M 2,376.81		As per the Fiscal Impact Analysis, on-site infrastructure refers to hard infrastructure within the boundaries of the subject area required to service the development.
On-site costs per capita	\$61,840.11/person		\$61,179.05/person		
• Water (\$ Million)	\$M 478.3		\$M 319.8		
• Wastewater (\$ Million)	\$M 375.8		\$M 249.4		
• Stormwater (\$ Million)	\$M 652.4		\$M 564.2		Stormwater costs include the cost of earthworks.
• Roads (\$ Million)	6 lane Arterial Roads	64.8	6 lane Arterial Roads	16.2	Per capita costs are the infrastructure costs divided by the total respective populations at full build out.
	4 lane Arterial Roads	289.8	4 lane Arterial Roads	331.2	
	Collector Roads	368.5	Collector Roads	241.2	
	Local Roads	1,095.0	Local Roads	640.0	
	Traffic Signals	8.7	Traffic Signals	4.8	
	Creek Crossings	6.0	Pipeline Crossings	10.0	
	Total On-site Roads	\$M 1,832.8	Total On-site Roads	\$M 1,243.4	

Comparison Matrix - Fiscal Impact Analysis
























Key Data	Bremner (Urban Reserve Area)	Colchester (Rural/Urban Transition Area)	Comments
Total Hard Capital Cost (\$ Million)	\$M 3,981.47	\$M 2,683.87	Includes initial capital costs only. Does not include operation and maintenance costs over time.
Hard Capital Cost per capita	\$73,730.93/person	\$69,082.88/person	Includes onsite and offsite infrastructure costs divided by the total respective populations at full build out.
Major Soft Infrastructure Costs (\$ Million)	\$M 513.25	\$M 435.96	Provision of soft infrastructure costs is based on population thresholds, and includes the cost of infrastructure such as police and fire stations, recreation centres, swimming pools, transit centres, park n' ride centres, and outdoor rinks. Includes initial capital costs only.
Soft Infrastructure Cost per capita	\$9,396.35/person	\$11,221.62/person	Soft infrastructure costs divided by the total respective populations at full build out.
Total Infrastructure Costs (\$ Million)	\$M 4,494.72	\$M 3,119.83	Includes initial capital costs only. Does not include operation and maintenance costs over time.
Total Infrastructure Cost per capita	\$83,235.53/person	\$80,304.40/person	Includes onsite, offsite, and soft infrastructure costs divided by the total respective populations at full build out.
Average Residential Municipal Tax (mills)	4.018	4.072	Based on the Fiscal Impact Analysis performed on the recommended community design concept at full build out horizon of each community.

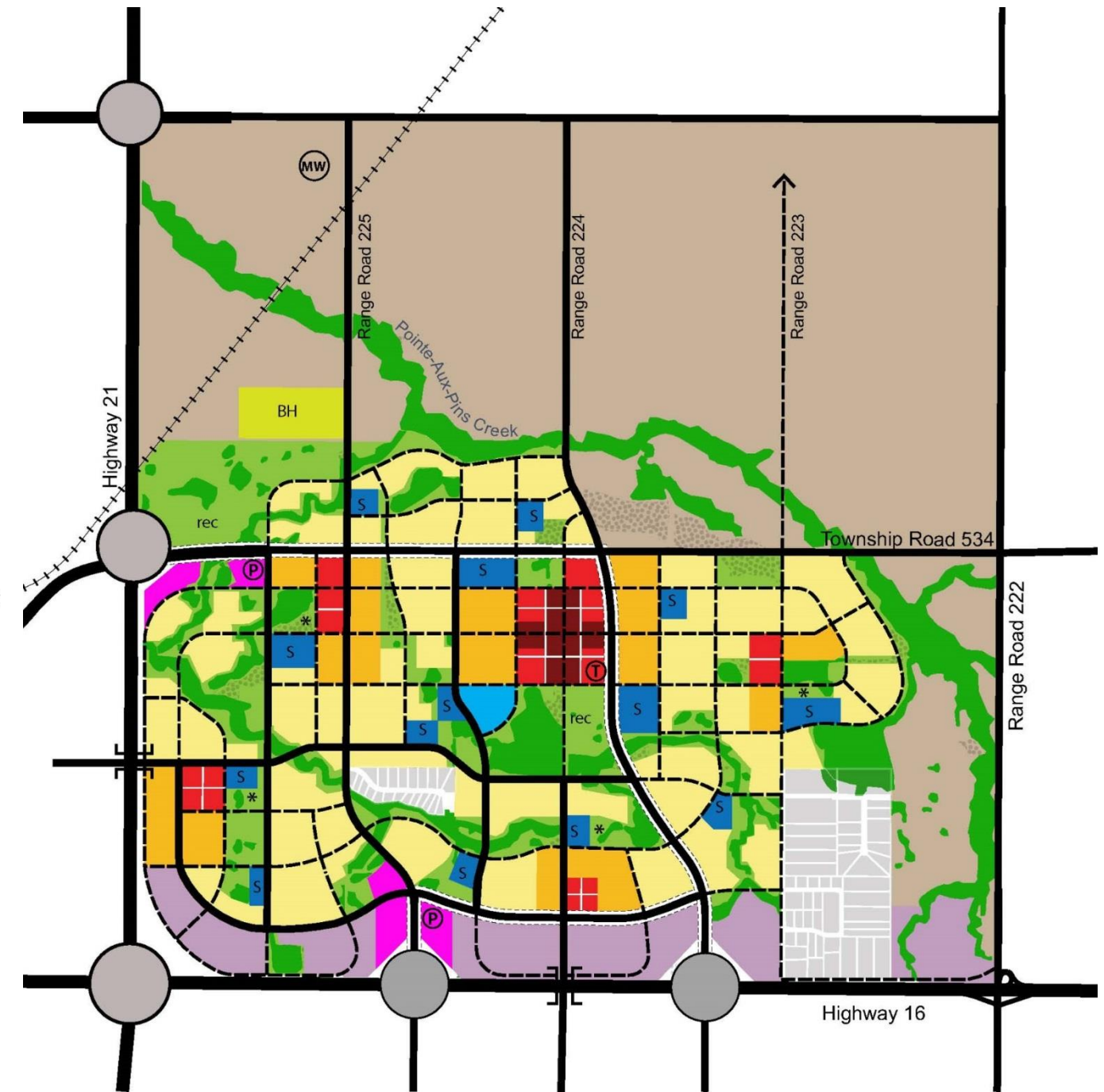
Appendix A

Recommended Community Design Concept

Bremner

Legend

 Low Density Residential	 School (Municipal Reserve)	 Agriculture	 Transit Station
 Medium Density Residential	 Institutional	 Bremner House Property	 Park and Ride
 Mixed-use Centres	 Community Centre	 Railway line	 Interchange
 Town Centre Commercial Core	 Parkland (Municipal Reserve)	 Highway Flyover	 Potential Meltwater Facility
 Business Park Area	 Environmental Reserve	 Arterial Road	
 Major Retail Area	 Upland Feature	 Collector Road	
	 Major Recreation Centre and Sports Fields		






























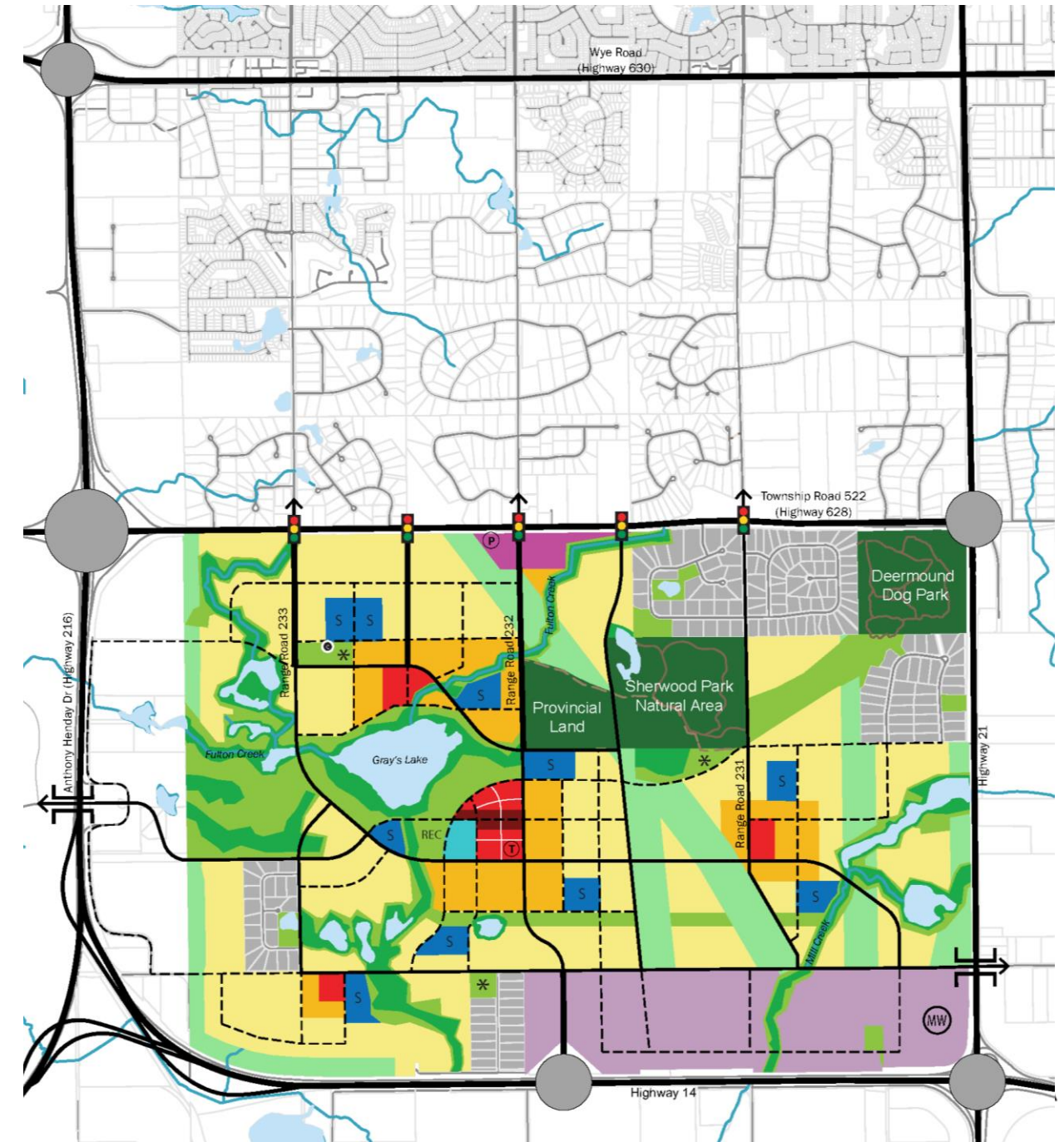
Appendix A

Recommended Community Design Concept

Colchester

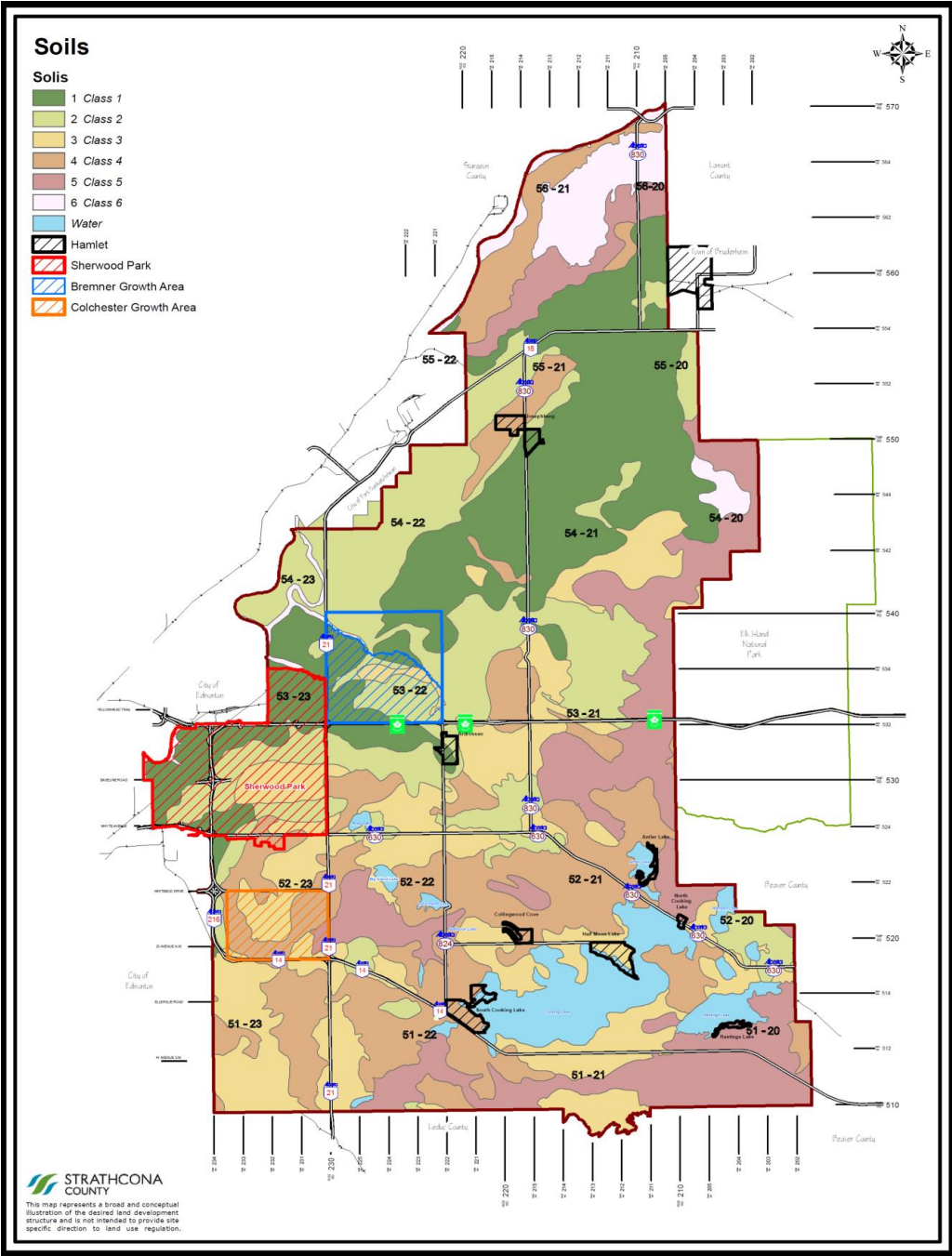
Legend

 Existing Residential	 Schools	 Lakes	 Cemetery
 Low Density Residential	 Institutional	 Streams	 Transit Station
 Medium Density Residential	 Community Centre	 Old Edmonton Trail	 Park & Ride
 Mixed-Use Centres	 Major Recreation Centre	 Arterial Roads	 Traffic Signal
 Town Centre Commercial Core	 Existing Protected Areas	 Collector Roads	 Potential Meltwater Facility
 Business Park Area	 Municipal Reserve	 Interchange	
 Major Retail Area	 Environmental Reserve	 Highway Flyover	
	 Pipeline Corridors (With setbacks for sensitive uses)		



Appendix B

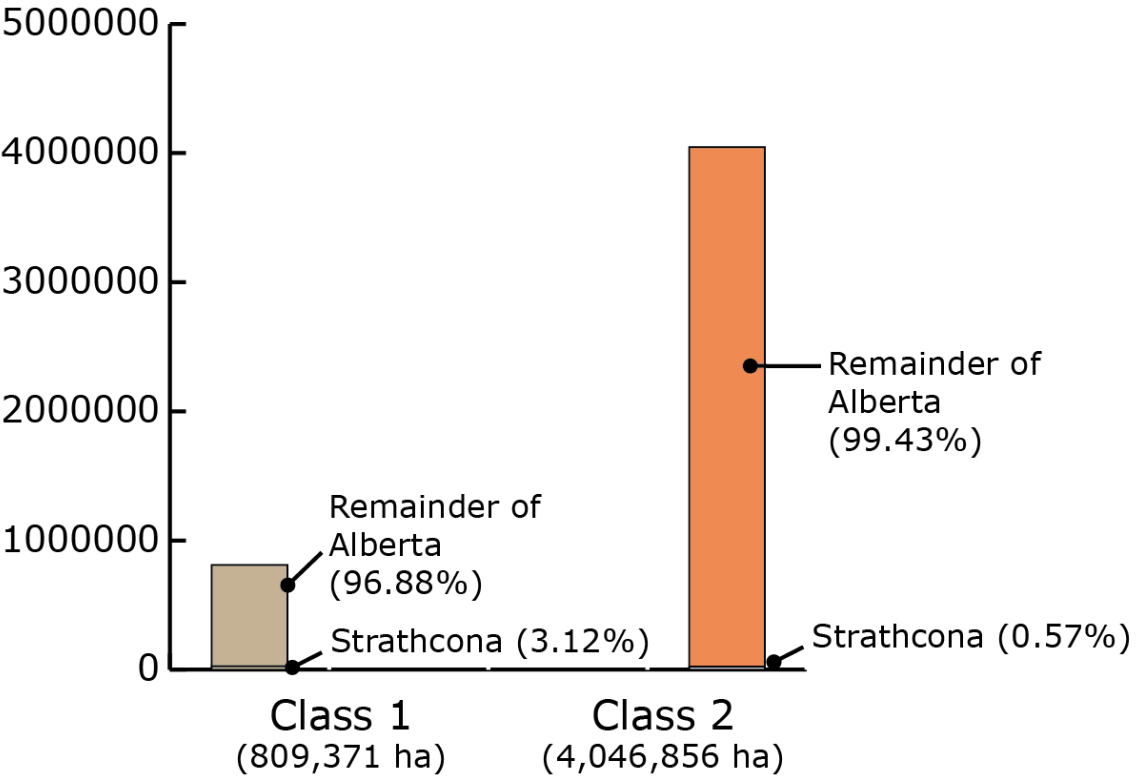
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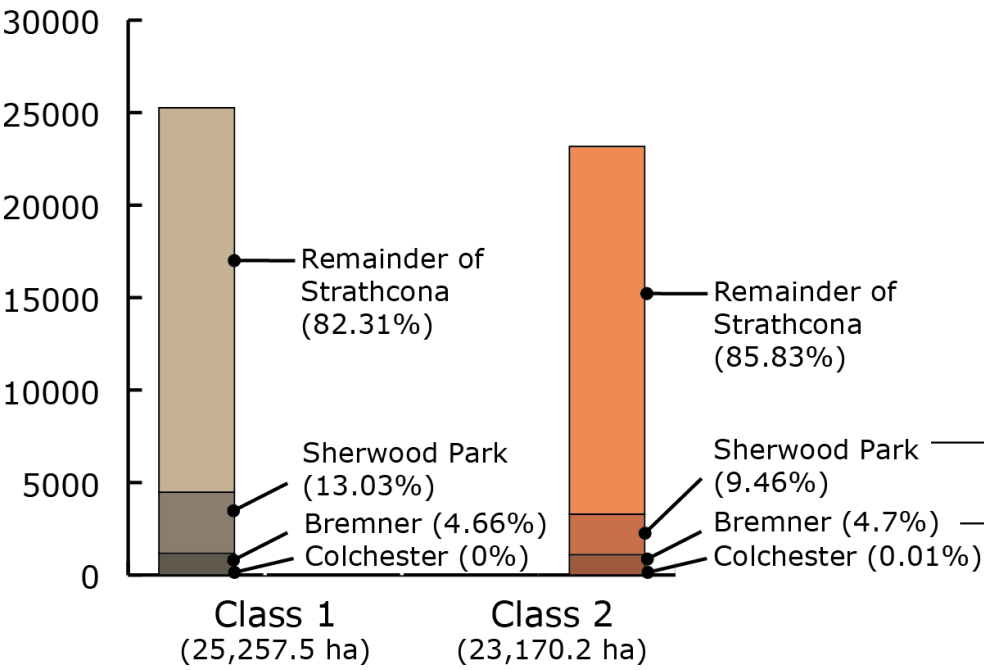
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Soils Ratings Based on Canadian Land Inventory (C.L.I)

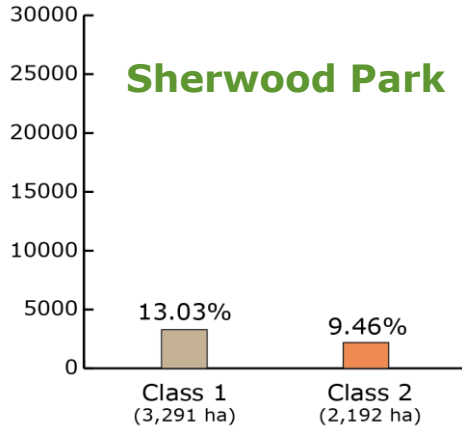
Alberta



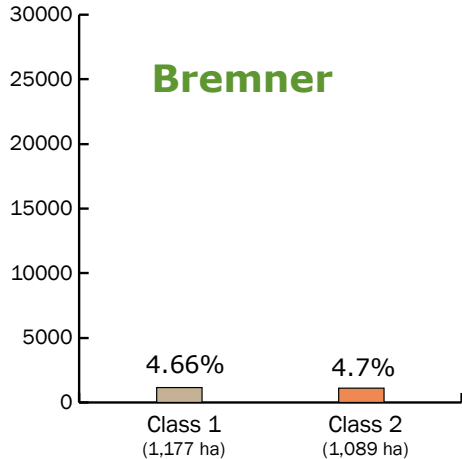
Strathcona County



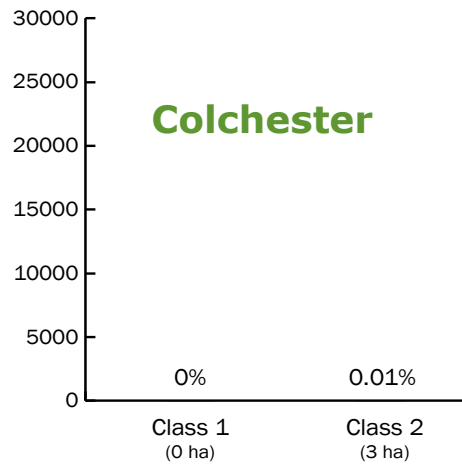
Sherwood Park



Bremner



Colchester



Comments

- Alberta - this refers to the percentage of Class 1 and 2 soils in all of Alberta, and the percentage of these soils found in Strathcona County. These numbers do not reflect any soils that may have been built on by urban development.
- Strathcona County - this refers to the percentage of Strathcona County Class 1 and 2 soils found within the Plan Area of each potential growth node as well as Sherwood Park.
- Sherwood Park, Bremner, Colchester - this refers to the percentage of Strathcona County Class 1 and 2 soils found within each Plan Area as well as Sherwood Park, it does not reflect what percentage of these areas are made up of Class 1 and 2 soils. This information with respect to Bremner and Colchester can be found in the Comparison Matrix under existing conditions.

Appendix C

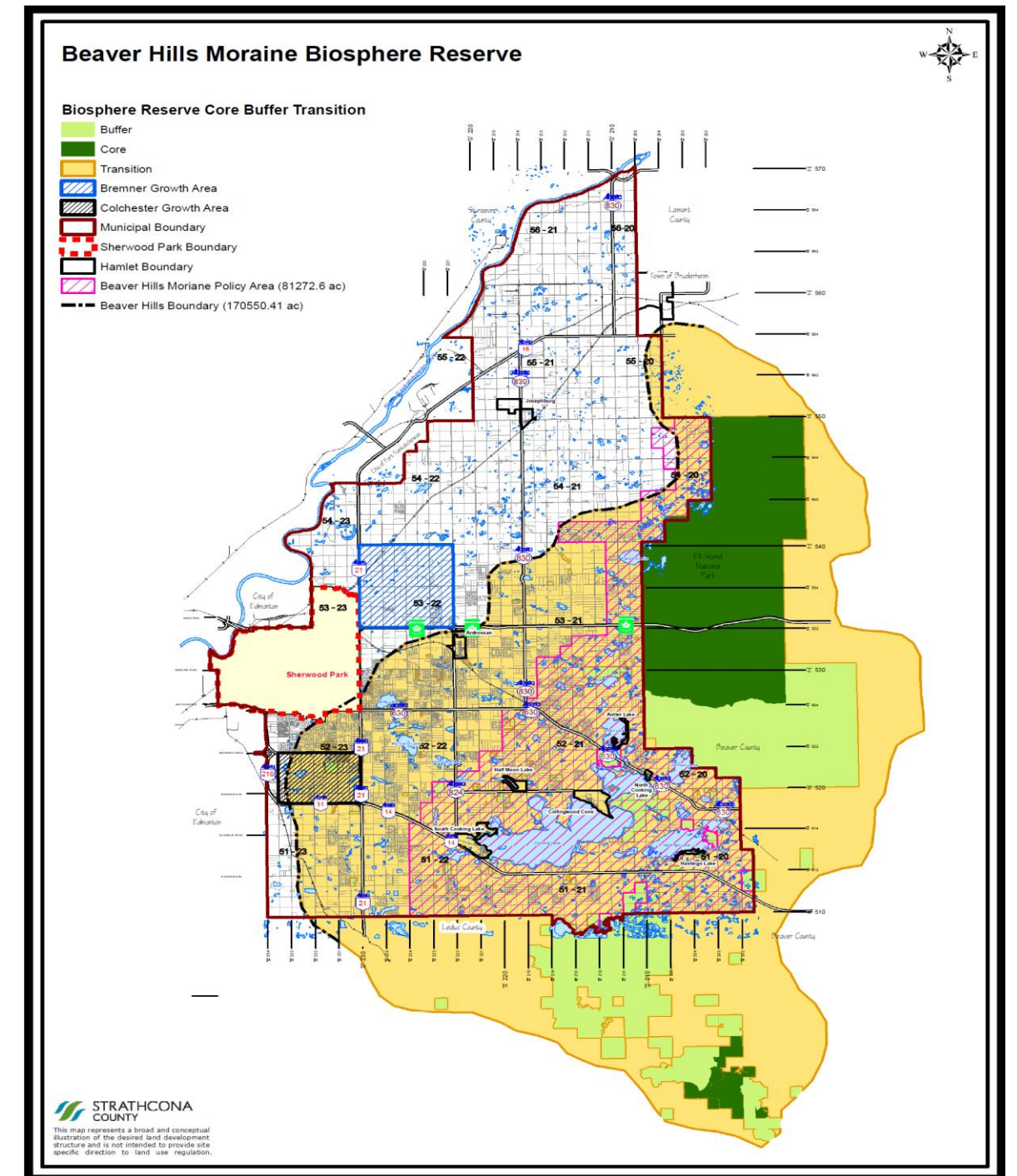
Beaver Hills Moraine

Beaver Hills Moraine:

- Distinct geomorphological feature that encompasses 1572 km² (607 mi²).
- An island of boreal mixedwood forest, the hummocky “knob and kettle” terrain of the moraine forms a patchwork of depressional areas, many of which support wetlands, small lakes and streams.
- Spans 5 counties and includes Elk Island National Park, Miquelon Lake Provincial Park, the Cooking Lake-Blackfoot Provincial Recreation Area, the Ukrainian Cultural Heritage Village and the Strathcona Wilderness Centre.
- Colchester area contain 4842.21 acres of the Beaver Hills Moraine within its boundary.

Beaver Hills Moraine Policy Area:

- A policy area within the County’s Municipal Development Plan that accommodates agriculture, residences tied to agriculture and low impact recreational uses.
- The primary intent of the Beaver Hills Moraine Policy Area is to conserve the Beaver Hills Moraine ecosystem and landscape.



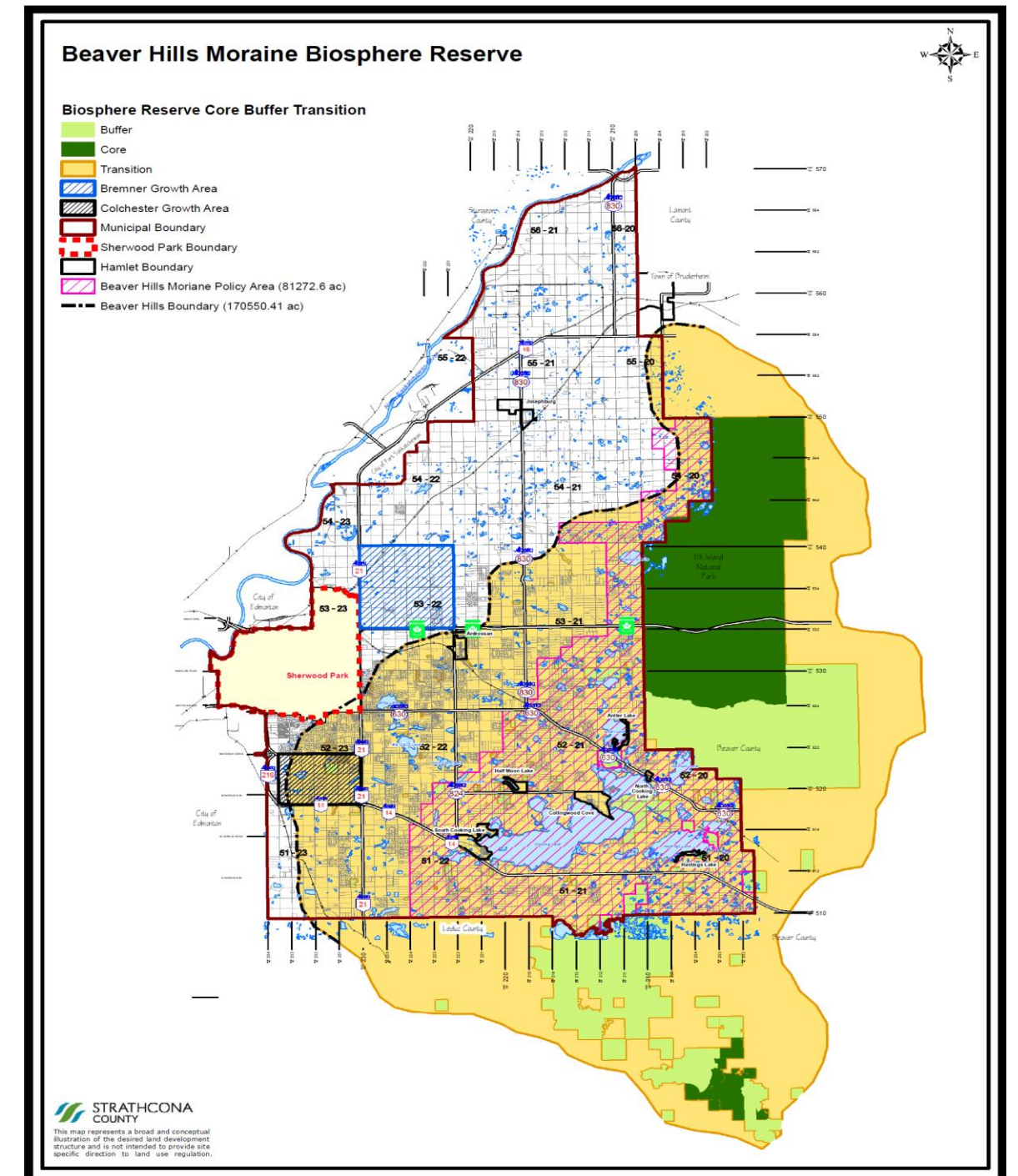
Appendix C

Beaver Hills Moraine

UNESCO Biosphere Reserve Nomination:

Biosphere reserves are organized into three interrelated zones: the core area, the buffer area, and the transition area.

- **Core Areas** - Requires legal protection and can correspond to an existing protected area such as a national park.
- **Buffer areas** - Are peripheral to a specific protected area, where restrictions on resource use and special development measures are undertaken in order to enhance the conservation value of the protected area.
- **Transition Areas** - Are peripheral to the core and buffer and are typically the largest component of the Biosphere – consisting of the living and working landscape. Local communities, management agencies, scientists, non-governmental organizations, cultural groups, economic interests, and other stakeholders work together to manage and sustainably develop the area's resources.
- **Colchester** - A portion of the moraine which is part of the transition area (4623.04 ac), except for the Sherwood Park Natural Area, which is defined as a buffer area (219.17 Ac).



Appendix D

Significant Natural Features

Bremner Significant Features

- ❖ Pointe-aux-Pins Creek and its tributaries
- ❖ Pointe-Aux-Pins soapholes
- ❖ Oldman Creek tributary
- ❖ Class 1 and 2 soils
- ❖ Numerous wetlands and uplands

Development Considerations

- Minimum 100 meter setback from the top of bank from Pointe-Aux-Pins.
- No development should be permitted within the Pointe-Aux-Pins soapholes.
- Soil conservation study should be completed at ACP stage.
- Detailed Biophysical Assessment for each quarter section at ASP stage.



Appendix D

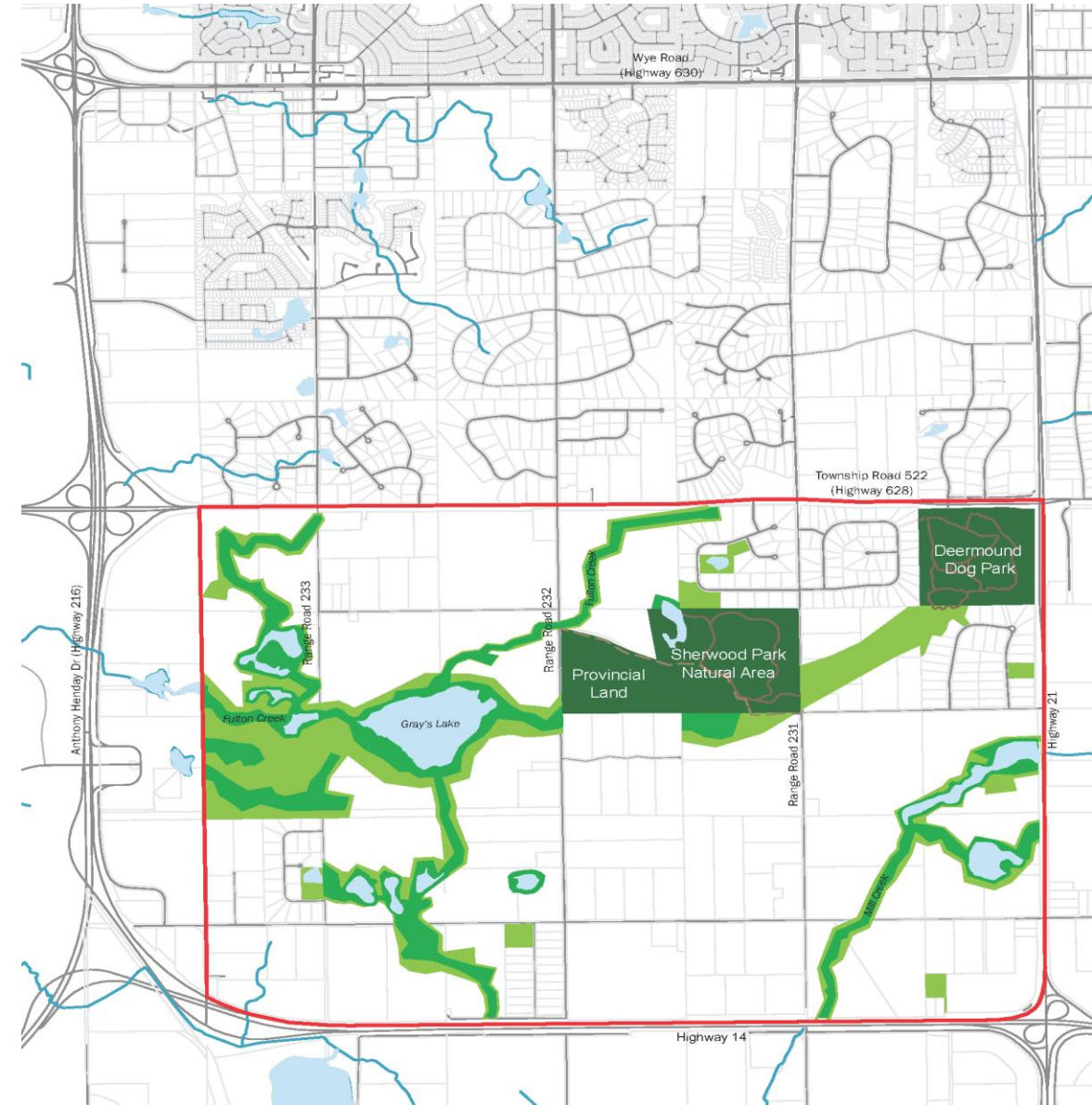
Significant Natural Features

Colchester Significant Features

- ❖ Fulton Creek
- ❖ Mill Creek
- ❖ Grays Lake
- ❖ Wetlands
- ❖ Drainage and upland habitat

Development Considerations

- High Priority Conservation Areas.
- Detailed Biophysical Assessment for each quarter section at ASP stage.
- Detailed drainage studies for Fulton Creek and Mill Creek.
- Conservation and management plans for Fulton Creek and Mill Creek.



Appendix E

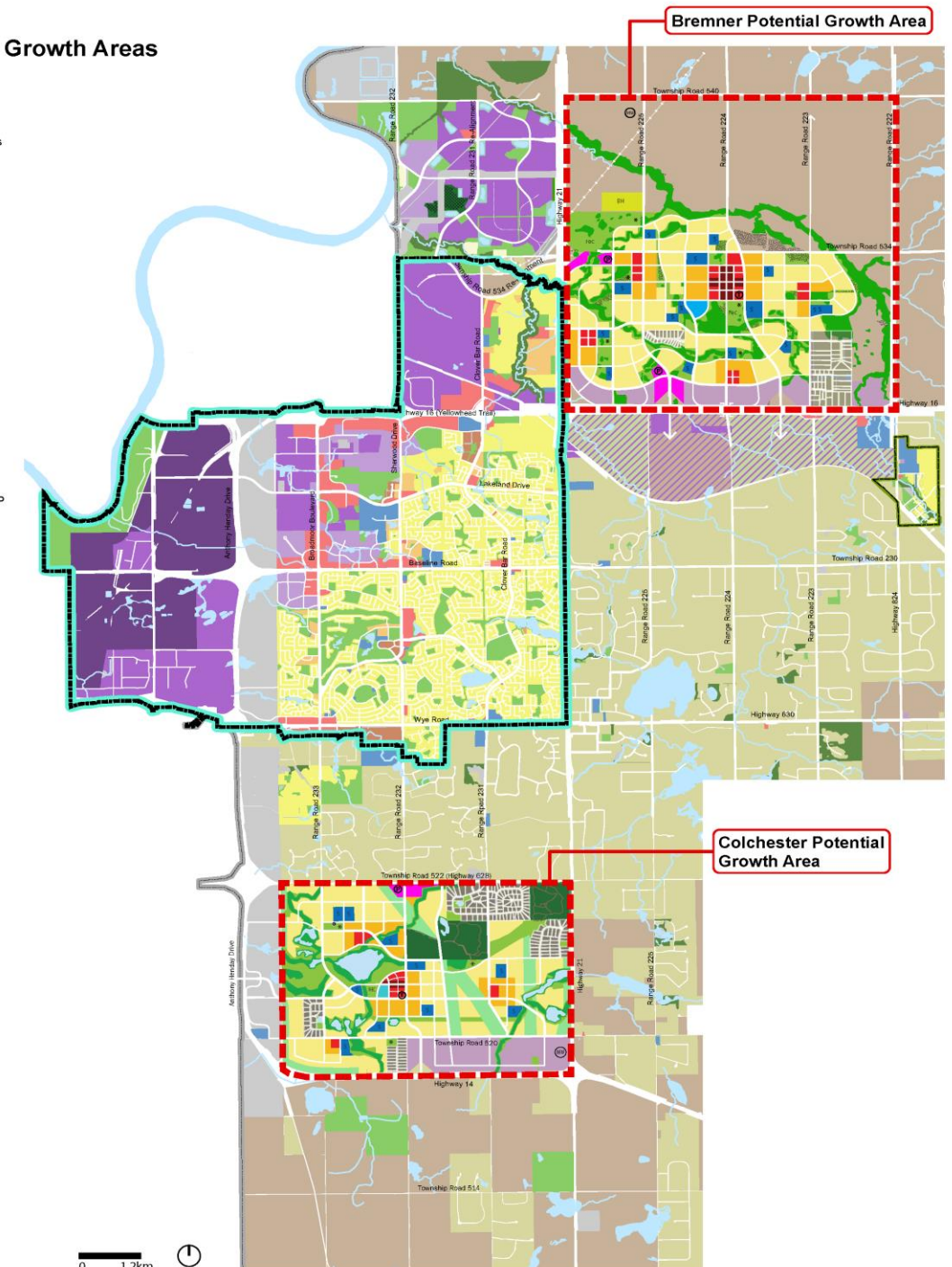
Transportation Concepts and Potential Downstream Impacts

- The analysis conducted for road upgrades was based on what was required to service the ultimate population and community design concept. It did not take into consideration any downstream impacts, or areas that may still require a portion of the infrastructure even if the growth node is not chosen.
- For example future interchanges may still be required on Highway 16 without Bremner and future road widening for Highway 628 without Colchester given current and future traffic demands.
- Detailed analysis on all downstream impacts and including required rights-of-way for future road widening and discussion with the City of Edmonton would be completed at future planning stages.

Context Map of Potential Growth Areas



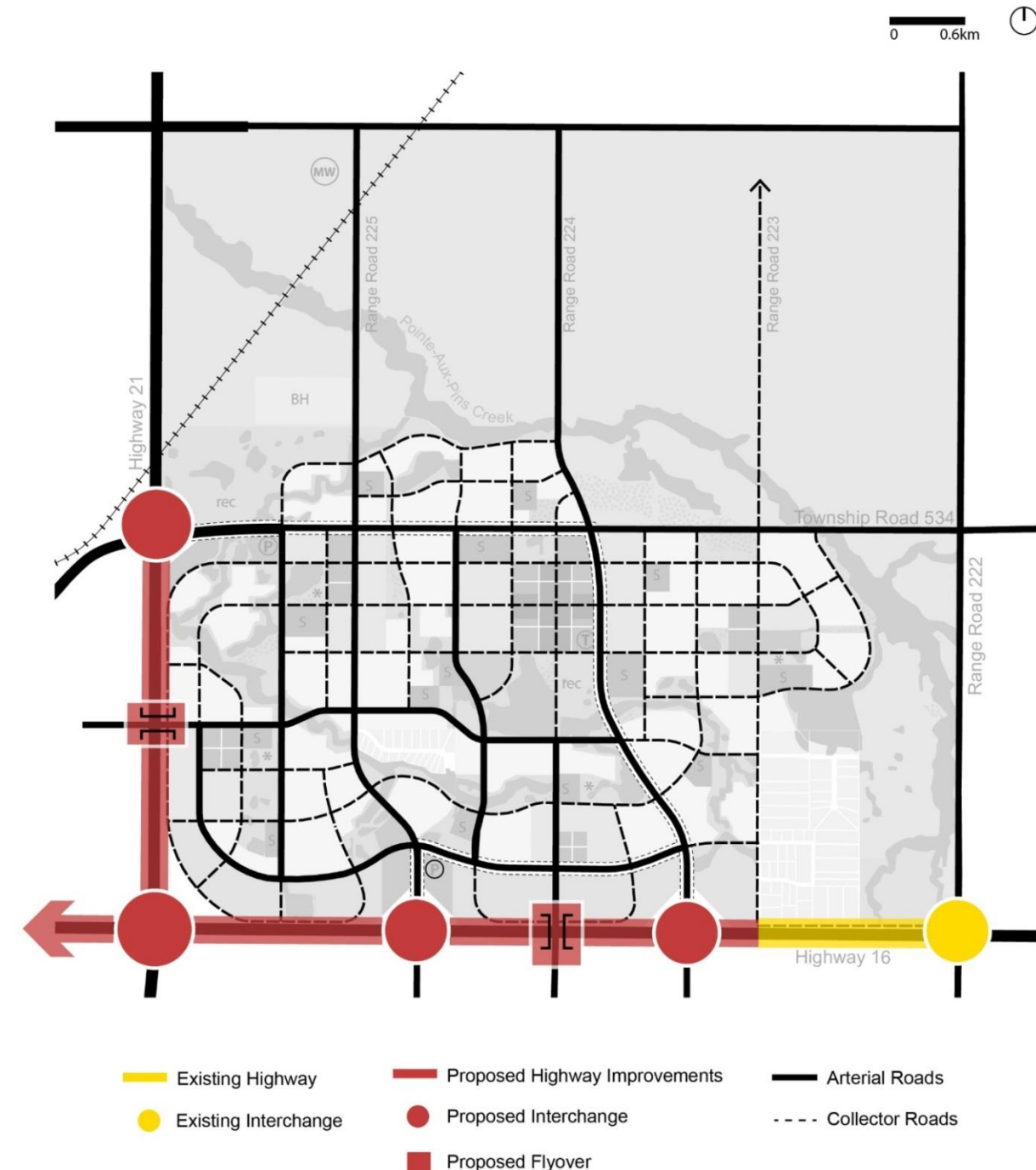
BREMNER - COLCHESTER LEGEND



Appendix E

Transportation Concepts and Potential Downstream Impacts

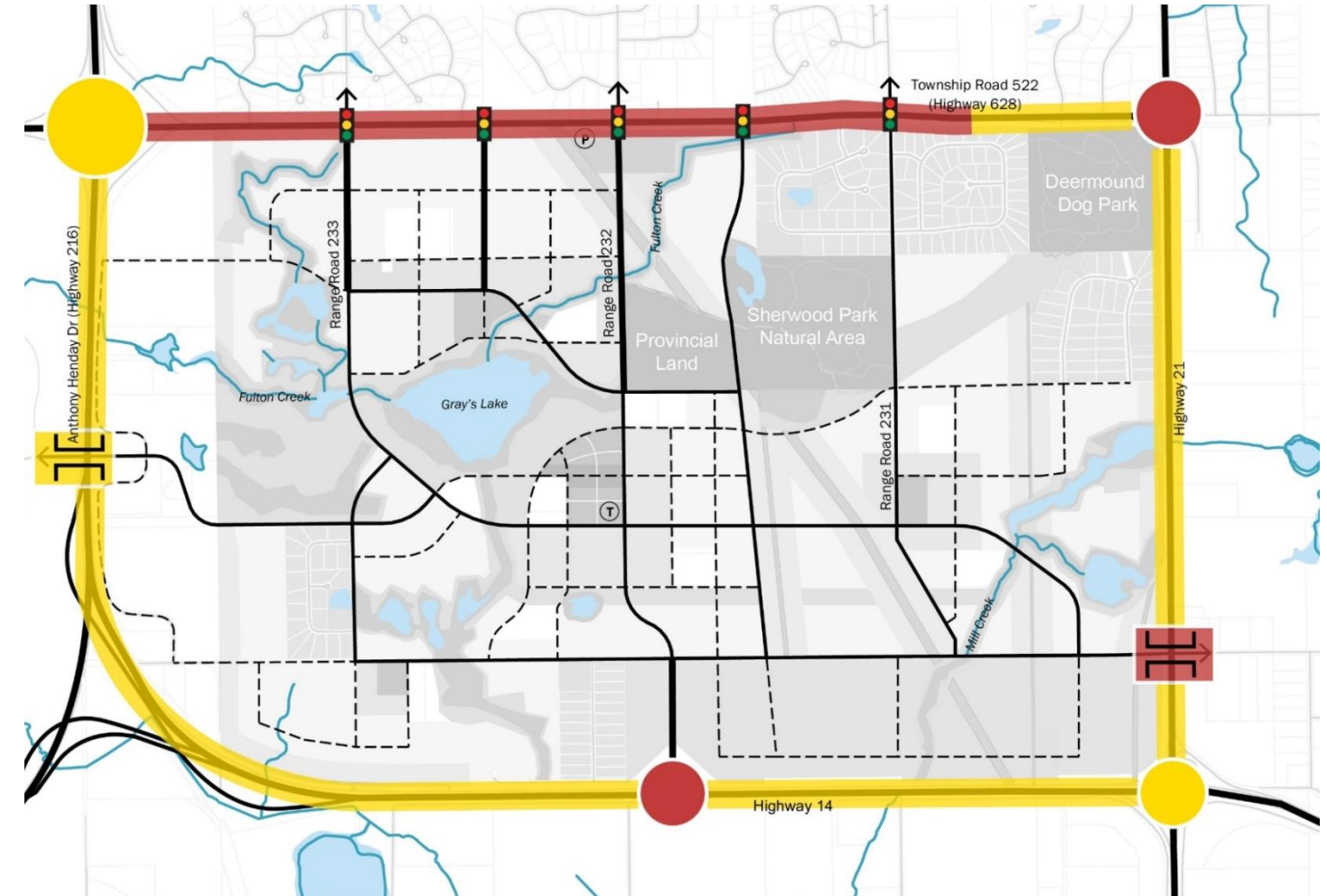
- Downstream impacts for Bremner may include roads in West of 21, Cambrian, the Development Expansion Area, Township Road 534 west, Range Roads 225, 224, 223 north of Point-Aux-Pins creek, Township Road 540, Highway 21 and arterial roads in Sherwood Park.



Appendix E

Transportation Concepts and Potential Downstream Impacts

- Downstream impacts for Colchester may include 23rd avenue in the City of Edmonton, Range Roads 233, 232, and 231 north to Wye Road and arterial roads in Sherwood Park.



Appendix F

Community Consultation

- **Consultation summaries regarding resident feedback on both Growth Management Strategies can be found in their respective Document Libraries on Strathcona County's website.**
- Concerns which have been raised by the public and landowners that may be related to social impacts include:

General Comments For Both Growth Areas

- The expense of a new community and impact on taxes.
- Who is paying for the infrastructure.
- Potential that County dollars may be put into new growth area instead of Sherwood Park resulting in the potential decline of Sherwood Park.
- How development proceeds with respect to existing property owners.
- Commercial development next to existing homes.
- Impact traffic generation may have on roads in the area and on the rest of the County.
- Buffering existing country residential from new development and impact of higher density and higher buildings.
- Distance from existing development.
- Current economic realities.
- What happens with the growth node not chosen.
- Has redevelopment of Sherwood Park and existing country residential been considered?



Appendix F

Community Consultation

Comments Specific to Bremner

- Building on good agricultural land.
- Potential air pollution from the Heartland.
- Impact on existing homes and farms regarding potential road expansion north of Point-Aux-Pins Creek along Range Roads 224, 225 and Township Road 540.
- What ultimately happens with lands north of Point-Aux-Pins Creek?

Comments Specific to Colchester

- Building in the Beaver Hills Moraine and impact on wetlands.
- The number of proposed lights on Highway 628.
- Cost and feasibility of developing around pipelines.
- Powerlines along the Anthony Henday.
- Impact on existing country residential regarding potential road expansion north of Highway 628 along Range Roads 233, 232 and 231.
- That existing country residential may be forced to tie into municipal servicing.



Appendix G

Council Requested Additional Information (Outside of RFP Scope)

ITEM	ACTION	EXPLANATION
Implications of Municipal Government Act(MGA) Review and Capital Region Growth Plan (CRGP)Update	Additional time/ Additional study (MDP) (ACP)(ASP)	Neither of these current initiatives are complete at this time. Administration would hesitate to conduct a review of any current draft materials to assist in the decision making process for Bremner or Colchester given that current information is not complete and the likelihood that draft policies will change prior to provincial approval. The North Saskatchewan Regional Plan is also currently being conducted by the province which could have a potential impact on the CRGP and MGA once it is complete. As these regional and provincial documents are completed their impacts can be assessed at future planning stages. Administration would need additional time to review the implications of any current draft materials.
Annexations Affecting Strathcona County	Additional time	Administration is currently compiling this information. Additional time would be needed to complete a compilation of annexations involving Strathcona County and whether the land involved in the annexation was developed or undeveloped.
Short Term Impact on Tax Rates Impact on Reserves and Borrowing	Additional study/ Additional time	Need to complete a feasibility analysis at the ACP stage. The current analysis is high level, particularly around hard infrastructure staging and the associated funding assumptions, as well as current economic environmental factors. Fiscal Impact Assessments (FIA)s have been completed for each recommended community design concept. The numbers and costs in the FIAs are high level, and are not detailed enough to indicate the feasibility of each proposed growth management strategy.

Appendix G

Council Requested Additional Information (Outside of RFP Scope)

ITEM	ACTION	EXPLANATION
Wetland Classification	Additional study (ASP)	As per the Alberta Wetland Policy (September 2013), not only is there a new Alberta Wetland Classification System (June 2015) identifying bogs, fens, marches, shallow water, and swamps, but also an Alberta Wetland Rapid Evaluation Tool – Actual (ABWRET-A) (June 2015). ABWRET-A is a standardized method for rapidly assessing some of the important natural functions of all types of wetlands present in the White Zone of Alberta. ABWRET-A generates scores for a wetland's functions which then are used, with other inputs, to assign a wetland to a value category (A, B, C, or D). Further detailed investigation is required at the ASP stage.
Wetland Mitigation	Additional study (ACP) (ASP) (subdivision)	If the classification and functional values of all wetlands were completed, mitigation (avoidance, minimization and restoration) could be determined very conceptually based on prioritized conservation areas. The level of detail at the ACP or ASP planning and design stages would reflect realistic mitigation opportunities.

Appendix G

Council Requested Additional Information (Outside of RFP Scope)

ITEM	ACTION	EXPLANATION
Ecosystem Services and Natural Capital	Additional study	The Matrix identified a number of natural key amenity features that would be incorporated into a new urban community for either Colchester or Bremner. A valuation of natural resources would include soils, plants, wildlife water, etc. The identification of natural resources would be one specific study, with a valuation or economic audit a second study.
Biodiversity Index	Additional study	Biological diversity (biodiversity) is determined by quantifying the species diversity within an ecological community. This is accomplished by extensive field work targeted at not only identifying all species present, but also delineating the community. Diversity has two components; (1) species richness – the number of species identified, and (2) species abundance – the dominance or evenness of species. Whichever diversity index is used, the key component is field work across this entire area by qualified professionals.
Costs to Acquire MR and ER	Additional study (ACP)(ASP) (subdivision)	Municipal Reserve (MR) and Environmental Reserve (ER) are conceptual at this level. The Municipal Government Act only permits 10% of the gross developable land area to be allocated as MR. Detailed consideration would be given to this as part of an Area Concept Plan (ACP) and subsequent Area Structure Plans (ASP). There is a strong likelihood the amount of ER and MR identified in the concept will change through more detailed analysis at these stages. As per the Municipal Government Act (MGA) it is assumed the County will be able to negotiate additional MR above the 10% given the higher density of both the Bremner and Colchester community design concepts.

Appendix G

Council Requested Additional Information (Outside of RFP Scope)

ITEM	ACTION	EXPLANATION
Social Impacts	Additional study	To understand all of the social impacts an additional study would be needed. The context of social impacts would have to be clarified. It is common for new development areas to utilize existing facilities and schools until population warrants new facilities. It is assumed for Bremner that school and facility services may be utilized on an interim basis in Cambrian, Sherwood Park and potentially Ardrossan. For Colchester it would be assumed that facility services would be utilized on an interim basis in Sherwood Park. Schools for Colchester may be used on an interim basis in Sherwood Park and potentially the rural area.
Impact on Current County Wide Studies	Study updates	When a growth node is chosen current County studies such as the Integrated Transportation Master Plan would need to be updated to reflect the new urban growth area.

Appendix G

Council Requested Additional Information (Outside of RFP Scope)

ITEM	ACTION	EXPLANATION
Agriculture Master Plan	Additional study (MDP)(ACP)(ASP)	The Bremner Growth Management Strategy was completed prior to the Agricultural Master Plan being approved by Council. The Bremner GMS acknowledges the Agricultural Master Plan and the need to incorporate information from that study at Area Concept Plan stage. Information from the Agricultural Master Plan would also be incorporated into an ACP for Colchester.
Fragmentation of Farmland and Assembly of Land	Additional time	Additional time would be needed to determine what fragmented land is being farmed. Additional time would also be needed to conduct a survey of current landowners and their willingness to sell their property for development. Additional time would be needed to interview the development community on their willingness to assemble land for development in either area.
Net Developable Land	Additional time (ASP)	Net developable land within the concepts for both areas does not include land trust or conservation easements. Additional time and cost would be needed to pull all titles in the plan areas to confirm this information. This would be reviewed in detail at the Area Structure Plan stage when individual applications are made by the development community.

Appendix G
Council Requested Additional Information
(Outside of RFP Scope)

ITEM	ACTION	EXPLANATION
Commuter Congestion Offsite Road Upgrades Potential Downstream Impacts	Additional study (ACP)(ASP)	<p>The analysis conducted for road upgrades was based on what was required to service the ultimate population and community design concept. It did not take into consideration any downstream impacts, or areas that may still require a portion of the infrastructure even if the growth node is not chosen. For example future interchanges may still be required on Highway 16 without Bremner and future road widening for Highway 628 without Colchester given current and future traffic demands.</p> <p>Detailed analysis on all downstream impacts and including required rights-of-way for future road widening and discussion with the City of Edmonton would be completed at future planning stages.</p> <p>Downstream impacts for Bremner may include roads in West of 21, Cambrian, the Development Expansion Area, Township Road 534 west, Range Roads 225,224,223 north of Point-Aux-Pins creek, TWP Road 540, Highway 21 and additional arterial roads in Sherwood Park.</p> <p>Downstream impacts for Colchester may include 23rd avenue in the City of Edmonton, Range Roads 233,232,and 231 north to Wye Road and addition arterial roads in Sherwood Park.</p>

Appendix H

Environmental Assumptions

- Only a high level Biophysical Assessment has been completed for **both** potential growth nodes. Municipal Reserve (MR) and Environmental Reserve (ER) are conceptual at this level.
- **Both** concepts contain density above 30 du/nrha as required by the Capital Region Board (Bremner requires between 30-40 du/nrha and Colchester requires between 30-45+ du/nrha).
- The Biophysical Assessment recommends that a soils study be completed for **Bremner** at the ACP stage.
- Due to the moraine landscape in the **Colchester** area, an additional 10% of land was assumed to be required for ER.



Appendix H

Water Servicing Assumptions

- The most likely servicing option for **Bremner** comes with some challenges including the requirement of construction of a Strathcona County watermain within the City of Edmonton, which presents jurisdictional challenges to be explored further. Assumption being made that the City will permit the construction.
- A future highway interchange is planned at Township Road 534 and Highway 21 which will increase the cost and complexity of the water transmission main crossing in **Bremner**. It is assumed the County will be able to secure an alignment and crossing agreement with Alberta Transportation for the water transmission main.
- It is currently assumed there will be adequate space within the Transportation Utilities Corridor (TUC) to accommodate the water line for **Colchester**. Further investigation will be required at the ACP stage.
- A detailed hydraulic analysis including water modeling will be required at the Area Concept Plan stage for **both** areas.



Appendix H

Wastewater Servicing Assumptions

- Further investigation will be required at the ACP stage to determine whether strictly a gravity system versus constructing a pump station is warranted given the depths of construction required to provide gravity servicing to **Colchester** which increases the initial capital costs of the system.
- Analysis of the lifecycle capital and operating costs will be required to determine if a pump station has significant benefits. It is assumed the most sustainable option in **Colchester** to reduce long-term operating costs would be a gravity system.
- A detailed engineering study will be required at the ACP stage for **Colchester** to evaluate and compare the capital and life cycle costs of a gravity system compared to a pumped system, including the impact of grading (fill) requirements and with consideration for storm servicing.



Appendix H

Stormwater Servicing Assumptions

- The impact of developing in this area has the potential to significantly disturb the natural hydrology of Fulton Creek by increasing peak flows and volumes. The County has identified significant ER and MR to protect this sensitive area in **Colchester**, which will help lessen impacts on Fulton Creek; however, there is assumption the County will be able to work with landowners and developers to dedicate additional MR or that Council would approve the purchase of lands to dedicate as MR in order to facilitate the protection of Fulton Creeks natural hydrology.



Appendix H

Transportation Assumptions

- A series of interchanges and flyovers have been identified to connect **Bremner** to the surrounding road network. The spacing of the interchanges is consistent with the spacing of interchanges in other urban areas of the Capital Region however further discussions and ultimate approval by Alberta Transportation will be required prior to the Area Concept Plan. Assumption being that AT will support the proposed spacing.



Appendix H

Transportation Assumptions

- Current access to/from the **Colchester** area is by way of at-grade intersections on Highway 628 at Range Roads 233, 232 and 231, as well as by way of at-grade intersections on Highway 21 at Township Road 520 and Township Road 521. The at-grade intersections on Highway 628 are controlled by traffic signals at Range Road 233 and at Highway 21; all other at-grade intersections are unsignalized but have stop signs on the minor road approaches to the highway.
- The **Colchester** area is entirely surrounded by provincial highways and will be subject to provincial guidelines and regulations with respect to access. Based on discussions with Strathcona County, the Province intends to maintain strict access control on all highways surrounding Colchester. The current plans for future access to/from Colchester are very limited: one access point to the south (interchange on Highway 14 at Range Road 232), one access point to the west (flyover Highway 216), one access point to the east (flyover Highway 21).
- The existing AT functional plans did not contemplate urban development in **Colchester** therefore further transportation analysis and consultation with Alberta Transportation regarding ultimate intersection treatment and ownership of Highway 628 will be required at the Area Concept Plan stage.



Appendix H

Fiscal Impact Analysis Assumptions

- An analysis has not been conducted in regard to the County's or developer's ability to finance either development. In this regard the Fiscal Impact Analysis (FIA) is not a feasibility analysis.
- The final FIA assumes that developers would front end all hard infrastructure. A feasibility analysis would be required to review the reasonability of this assumption including alternative funding scenarios and their impacts.
- The effect on the financial requirements on future capital plan projects and financing has not been considered (i.e. growth node vs. existing demand).
- There has been no consideration for changes to the economic environment and that the grant environment won't change.
- FIA results could be significantly impacted by requirements to address environmental conditions as determined by a geotechnical analysis.
- The FIA assumes North of Yellowhead (Cambrian) completion as part of the analysis.



Comparison Matrix

Discussion

